FIG. 1

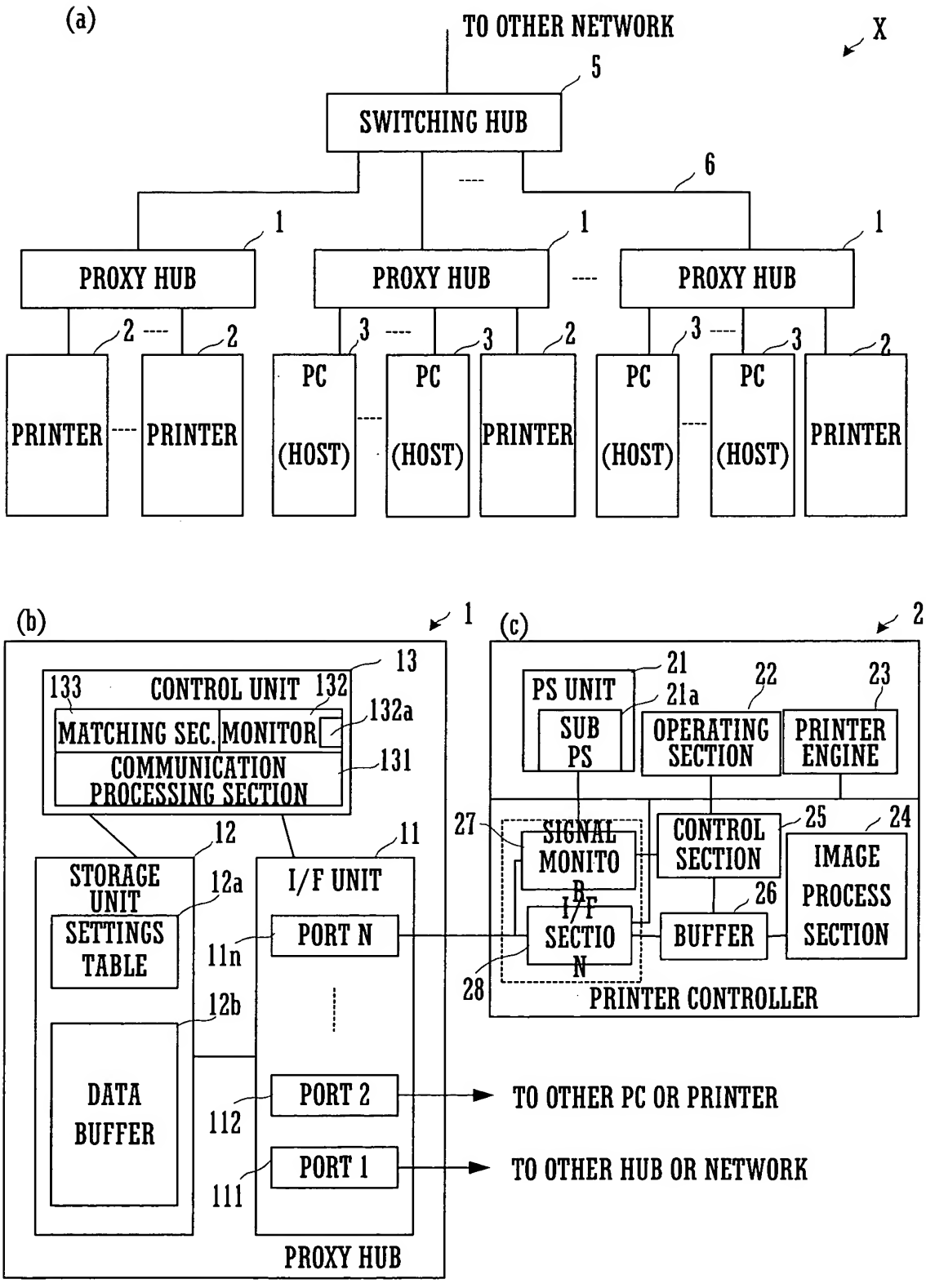

(a)
TO OTHER NETWORK
X
5
SWITCHING HUB
6
1
PROXY HUB
PROXY HUB
PROXY HUB
2
PRINTER
PRINTER
3
PC
(HOST)
PC
(HOST)
PRINTER
PC
(HOST)
PC
(HOST)
PRINTER
(b)
1
13
133
CONTROL UNIT
132
MATCHING SEC.
MONITOR
132a
COMMUNICATION PROCESSING SECTION
131
12
11
STORAGE UNIT
12a
SETTINGS TABLE
I/F UNIT
PORT N
11n
12b
DATA BUFFER
PORT 2
112
PORT 1
111
PROXY HUB
(c)
2
21
PS UNIT
21a
SUB PS
22
OPERATING SECTION
23
PRINTER ENGINE
27
SIGNAL MONITOR
I/F SECTION
28
CONTROL SECTION
25
24
IMAGE PROCESS SECTION
26
BUFFER
PRINTER CONTROLLER
TO OTHER PC OR PRINTER
TO OTHER HUB OR NETWORK

FIG. 2

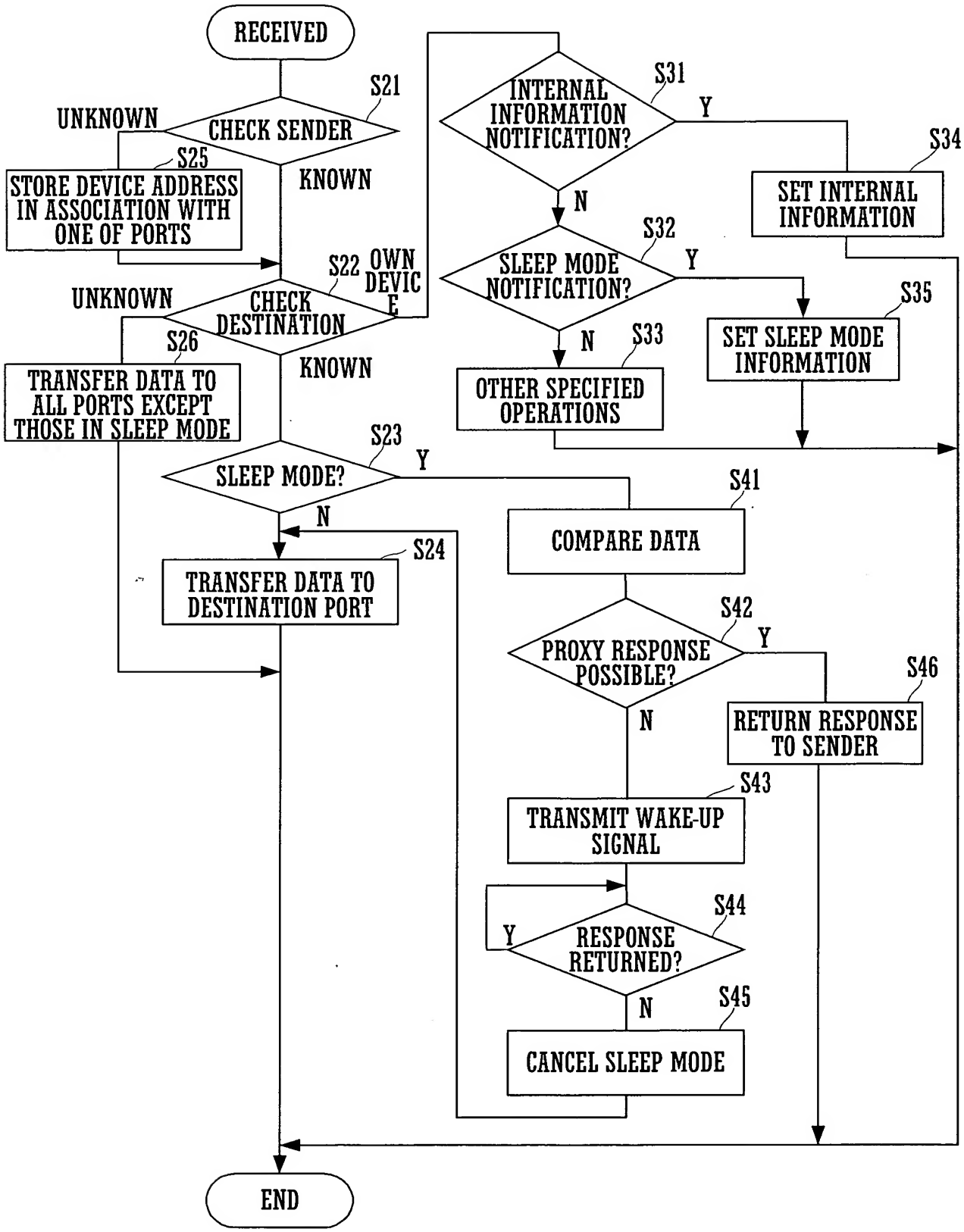

RECEIVED
S21
CHECK SENDER
UNKNOWN
KNOWN
S25
STORE DEVICE ADDRESS IN ASSOCIATION WITH ONE OF PORTS
S22
CHECK DESTINATION
OWN DEVICE
UNKNOWN
KNOWN
S26
TRANSFER DATA TO ALL PORTS EXCEPT THOSE IN SLEEP MODE
S23
SLEEP MODE?
Y
N
S24
TRANSFER DATA TO DESTINATION PORT
S31
INTERNAL INFORMATION NOTIFICATION?
Y
N
S34
SET INTERNAL INFORMATION
S32
SLEEP MODE NOTIFICATION?
Y
N
S35
SET SLEEP MODE INFORMATION
S33
OTHER SPECIFIED OPERATIONS
S41
COMPARE DATA
S42
PROXY RESPONSE POSSIBLE?
Y
N
S46
RETURN RESPONSE TO SENDER
S43
TRANSMIT WAKE-UP SIGNAL
S44
RESPONSE RETURNED?
Y
N
S45
CANCEL SLEEP MODE
END

FIG. 3

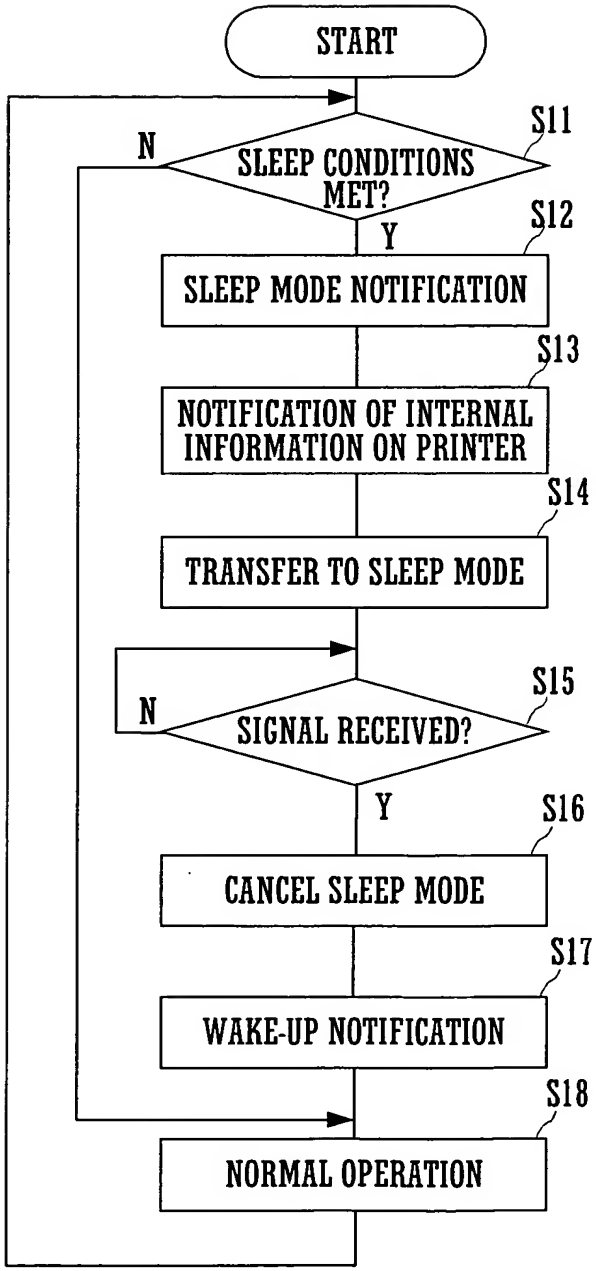

START
S11
N
SLEEP CONDITIONS MET?
Y
S12
SLEEP MODE NOTIFICATION
S13
NOTIFICATION OF INTERNAL INFORMATION ON PRINTER
S14
TRANSFER TO SLEEP MODE
S15
N
SIGNAL RECEIVED?
Y
S16
CANCEL SLEEP MODE
S17
WAKE-UP NOTIFICATION
S18
NORMAL OPERATION

FIG. 4

INTERNAL INFORMATION REQUEST COMMAND	COMMUNICATIONS PORT 1	COMMUNICATIONS PORT 2	.....
COM 01	(CASSETTE 1, PAPER OUT) (CASSETTE 2, A4)	(CASSETTE 1, A4) (CASSETTE 2, B4)	.....
COM 02	(TONER REMAINDER, LITTLE)	(TONER REMAINDER, SUFFICIENT)	.....
COM 03	(PAPER PATH, NORMAL)	(PAPER PATH, JAM)	.....

FIG. 5

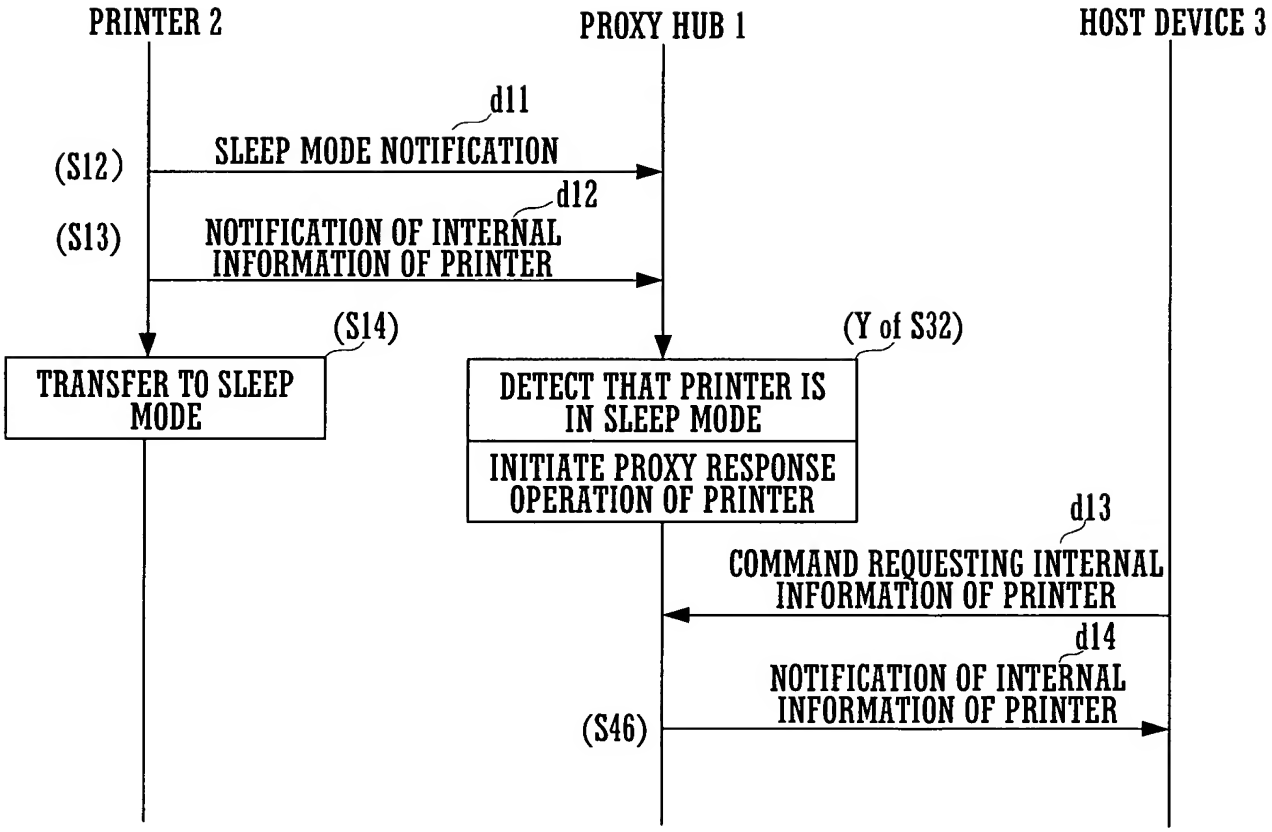
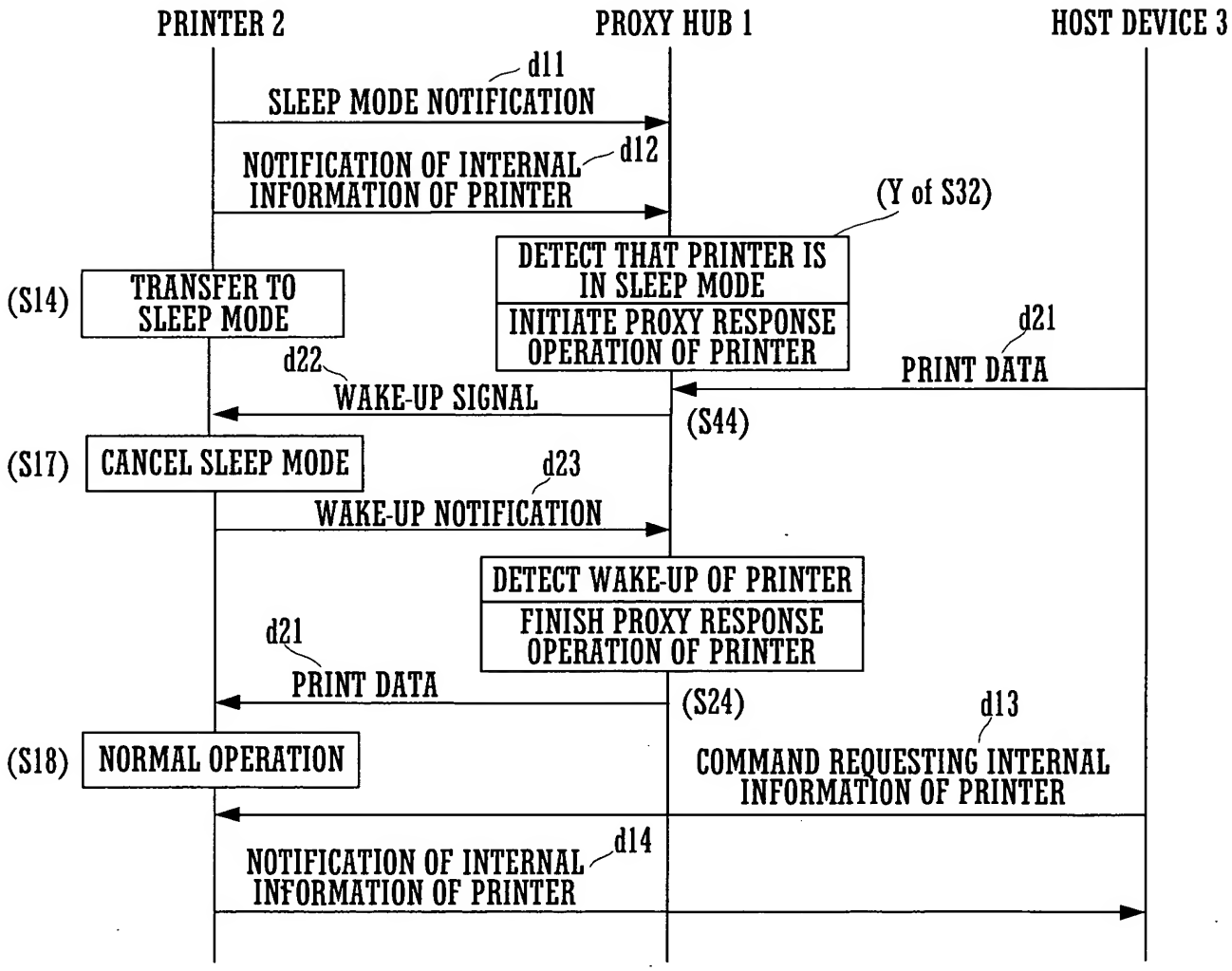

PRINTER 2
PROXY HUB 1
HOST DEVICE 3
d11
(S12)
SLEEP MODE NOTIFICATION
d12
(S13)
NOTIFICATION OF INTERNAL INFORMATION OF PRINTER
(S14)
(Y of S32)
TRANSFER TO SLEEP MODE
DETECT THAT PRINTER IS IN SLEEP MODE
INITIATE PROXY RESPONSE OPERATION OF PRINTER
d13
COMMAND REQUESTING INTERNAL INFORMATION OF PRINTER
d14
NOTIFICATION OF INTERNAL INFORMATION OF PRINTER
(S46)

FIG. 6


PRINTER 2
PROXY HUB 1
HOST DEVICE 3
d11
SLEEP MODE NOTIFICATION
NOTIFICATION OF INTERNAL INFORMATION OF PRINTER
d12
(Y of S32)
DETECT THAT PRINTER IS IN SLEEP MODE
INITIATE PROXY RESPONSE OPERATION OF PRINTER
(S14)
TRANSFER TO SLEEP MODE
d21
PRINT DATA
d22
WAKE-UP SIGNAL
(S44)
(S17)
CANCEL SLEEP MODE
d23
WAKE-UP NOTIFICATION
DETECT WAKE-UP OF PRINTER
FINISH PROXY RESPONSE OPERATION OF PRINTER
d21
PRINT DATA
(S24)
d13
(S18)
NORMAL OPERATION
COMMAND REQUESTING INTERNAL INFORMATION OF PRINTER
d14
NOTIFICATION OF INTERNAL INFORMATION OF PRINTER